

Appl. No. 10/612,431
Amdt. dated July 6, 2005
Reply to Office action of April 6, 2005

Listing of the Claims:

1. (original) A method for treating an area of a semiconductor wafer surface to reduce surface irregularities and stress concentrations, comprising:

treating the area with a laser, wherein the treated area is melted by a laser beam and re-solidifies into a more planar profile.
2. (original) The method of claim 1, wherein the treated area is ablated by the laser beam, vaporizing at least a portion of the surface irregularities.
3. (original) The method of claim 1, wherein the laser is a diode-pumped, charge-loaded laser.
4. (original) The method of claim 3, wherein the laser is a soft-marking laser.
5. (original) The method of claim 4, wherein the laser emits green laser light.
6. (original) The method of claim 4, wherein the laser emits infrared laser light.
7. (original) The method of claim 4, wherein the laser is selected from a set consisting of an Nd:YAG laser, a frequency-doubled Nd:YAG laser, an excimer laser, a helium-neon laser, and a carbon-dioxide laser.
- 8-15. (canceled)

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16. (original) A method comprising:
- treating at least a portion of a scribe street on a semiconductor wafer surface, wherein the surface is melted and resolidifies into a more planar profile, thereby reducing stress concentrations on the surface; and
- sawing through the treated portion.
17. (original) The method of claim 16, wherein the wafer surface is melted by a laser.
18. (original) The method of claim 17, wherein the laser is a soft-marking laser.
19. (original) The method of claim 18, wherein the laser is selected from a set consisting of an Nd:YAG laser, a frequency-doubled Nd:YAG laser, an excimer laser, a helium-neon laser, and a carbon-dioxide laser
20. (original) The method of claim 16, wherein treating the wafer surface immediately precedes laser marking.
21. (original) The method of claim 16, wherein treating the wafer surface immediately follows laser marking.
22. (original) The method of claim 16, wherein the treated portion is on the active surface of the wafer.
23. (original) The method of claim 16, wherein the treated portion is on the backside of the wafer.